GENERAL GUIDELINES FOR ESTABLISHING AN ENGINEERING & INDUSTRIAL SYSTEMS (E&IS) PROGRAM

We applaud your interest in beginning an Engineering & Industrial Systems (E&IS) program for your students. The main emphasis of an E&IS program is to provide students with opportunities to learn the skills that are necessary in the workplace. Most of the E&IS programs require a large concentration of time-on-task and smaller class sizes in order to gain the competence needed to meet National Skills Standards which Idaho uses as the basis for program content. The program curriculum should follow industry practices and use similar tools, equipment, and software that are currently utilized by local businesses. The instructor must have industry experience, but may not be required to hold a Bachelors degree. Teacher Education courses are required as part of the initial certification process.

E&IS programs tend to be more equipment intensive and are, therefore, more costly to operate. Our reimbursement formula takes this into account; however, the funding is never sufficient to cover all the costs associated with operating a program. The nature of E&IS programs also leads to more effective use of local advisory committees to assist the administration with curriculum content and program operation. Local industry can assist the school in determining what equipment is needed and where it can be obtained. The committee can be a valuable resource by providing equipment from the community.

A major difference between an E&IS program and a regular vocational offering is the need to have a minimum of 540 hours of instruction beyond the preparatory courses generally offered in the ninth and tenth grades. This usually requires a schedule that offers juniors a one year-long course followed by a year-long, two-period block of instruction at the senior level. The instruction can also begin at the sophomore level as either a semester or a year long course. Most quality E&IS programs in the state are three year programs. Technology Education programs are excellent feeder systems to E&IS programs and, in most instances, the Technology instructor is certified to teach the level one E&IS courses in the ninth and tenth grades. Due to the time needed to gain proficiency in the multitude of tasks of an occupational offering, and for safety reasons, E&IS program enrollments are limited to 15-18 students in advanced classes.

When initiating a new program, it is not practical to offer all three Levels of instruction until at least the third year of operation. We approve programs on the condition that the school will add the required instructional Levels once they have gained sufficient student enrollment. A typical new program sequence would offer three or four Level One courses and possibly one Level Two course. The second year the program would increase to three Level One courses and two Level Two courses. The third year should be designed to accommodate two Level One courses, one Level Two, and one two-period block Level Three course. The Level One courses may be offered as semester length in order to attract a larger base for the advanced courses. Somewhere in the sequence, a two semester or a one year multi-period block of instruction is required but it is more effective if offered to seniors.

SkillsUSA is the student organization recommended for all E&IS programs to encourage students to participate in leadership and team building skills that are an integral component of the curriculum. Chapter information and organizational material is available from the Division.

We will entertain any suggestions you have for offering a new E&IS program to your students. If you have any questions on teacher certification or program content please call Harold Nevill, Program Manager, Engineering & Industrial Systems Education at: (208) 334-3216, Fax (208) 334-2365, e-mail address: hnevill@pte.idaho.gov. Most curriculum guides are available at the University of Idaho's Curriculum Dissemination Center and will be available on the Division's Web Site in the coming year.

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